

XLIV.—*Notes on Birds observed at Para.* By E. L. LAYARD, Esq., H.B.M. Consul.—*With Descriptions of two new Species.* By P. L. SCLATER.

(Plates XIV. & XV.)

THE collection on which these notes are founded was got together chiefly in my early morning walks, from sunrise to 9 o'clock or a little later. It was commenced at the end of June 1872, and therefore only includes such birds as I could get during the dry season; this terminates in December. Last year our rains began about the 15th January, and up to the date on which I write (January 28th) have been pretty continuous. Some fine days have certainly intervened; and then the temperature has been lovely, and the early mornings in the forest inexpressibly delightful. Now, however, the early mornings break with the sun behind clouds, and the forest is wet and heavy with mist, while underfoot it is mire up to one's ankles. Of course in case of the least brush through the bushes in search of a wounded bird, you are drenched from head to foot.

Mr. Hayes, an American gentleman, who, though not a naturalist, is very observant of the ways of birds &c., told me that all the large fruit-eating birds, Parrots, Toucans, &c., come up from the southward at the end of December, or beginning of January, fleeing before the rainy season, and return in a similar manner from the north about June, when the dry season sets in. This I have found to be the case, as I daily see flocks of Parrots pass high overhead, my attention being directed to them by their shrill cries. Toucans, except the two small *Araçaris* sent, I have not yet seen. These the natives do not call "Toucans," but "*Araçari*," confining the former appellation to those species with the large bills.

I fancy this (January) must be the *spring* of the year, as all the trees are getting their new bright-green foliage, and I see very many birds are breeding, though such a thing as finding a nest is next to impossible.

With few exceptions very little can be learnt of the *habits*

of birds in this country. It is singular how barren of life the forests really are, and the paucity of *individuals*, as compared with *species*, is likewise remarkable. I have shot almost every thing I have seen, and skinned most of them; and yet, to the 215 specimens sent, there are 115 species. Then, too, the gloom in the forest is so great that rarely can you tell what bird you see and fire at, till it is actually in your hand. The most gaudy species appears simply a dark opaque body against the semitransparent tapestry of green. You fire, dodge round the smoke, which always hangs in the bushes, just in time to see a body heavier than a leaf fall to the thick carpet of *Lycopodium* and other low shrubs. You mark the exact leaf it struck in its fall, cut your way into the spot, and in three instances out of five don't find your bird!! The least mistake of a leaf where all are so similar, the least struggle of your prize, and you may as well "hunt for a needle in a pottle of hay." Only as late as yesterday I shot a fine Hawk close to my house; my servant and myself saw it fall, and marked the place accurately; but we hunted in vain for it for more than an hour, climbing the bushes, shaking them, and questing about like hounds, but all to no purpose. I have saved my chickens from the marauder, but would willingly give him a couple (though they are 4s. 6d. or 5s. a piece) for his maw, if I could bring him to life, and have another chance at him!

Under these circumstances how can the habits of our feathered friends be studied? In this neighbourhood there are no open spaces, all is forest-clad. On the 21st inst., however, I paid a visit to a Fagenda some 10 miles up the river Acará, the next stream to the Guamá. Just below the house was an open swampy piece of ground; and here for the first time I saw a flock of Plovers, probably *Hoplopterus cayanus*, and a Snipe (*Scolopax frenata*?). I regret to say that my companion failed in getting the first, and that I missed the second.

On the voyage I was much struck with the absence of life along the river's banks; with the exception of a solitary small white Heron and a pair of Swallows (*Progne chalybea*), we did not see a single bird. The tide was low, and the mud banks extended some distance; not a wader tenanted them.

The forest came down to the tidal range; not a Kingfisher or Jacamar flashed in the sunlight from spray or tree-top! How different from the animation of such a spot in Ceylon, the east coast of Africa, or even the Cape of Good Hope!

Another thing strikes me as singular; the Gulls and Terns are conspicuous by their absence! Here is a splendid reach of water several miles wide, extending right down to the sea, about ninety miles; and yet not a Gull or a Tern has been visible on it, to my knowledge, the whole time I have been here! I always look out anxiously for a sight of their lovely soft grey colours, but in vain!

(June 20, 1873) I had written thus far and packed my specimens and notes for transmission to England, when I received instructions to return home immediately, in order to proceed to take charge of the British Consulate in the Fiji Islands, where I shall probably be before this article reaches my brethren of the B. O. U. Of course I brought home my own collection, and now have to thank Mr. Selater for his kindness in identifying my specimens*.

It is singular that at the moment of embarkation I should have seen two new birds to add to my list, namely a Swallow (*Hirundo albiventris*) and a Tern (*Phaethusa magnirostris*?).

1. *Turdus phæopygus*, Cab.

Shot from a small flock of perhaps half a dozen individuals that flew across an open road in the forest, the Strada Braganza. Stomach contained seeds. I could not make out the sex, but fancied it a ♂.

2. *Turdus fumigatus*, Licht.

Kept as singing birds in cages, called "Sabia" by the people. Found in the neighbourhood of Pará. Feeds on berries. Shot one 1st October, 1872.

26th January, 1873. I daily hear a bird singing in the early morning, with a note just like the European Thrush. I am told this is the "Sabia;" and though I have not myself seen it singing, I have no doubt that this is really the songster that produces the only music I have heard in the forest.

* The names and arrangement used are those of the new Nomenclator Avium Neotropicalium.—P. L. S.

3. *DONACOBIVS ATRICAPILLUS* (L.).

A pair of these curious birds were shot by me on the 21st of January, 1873, at a farm some ten miles from Pará, up the river Acará. They had a clear loud piping whistle, and frequented dense bushy swamps, where I saw several more. Stomachs contained insects.

4. *TROGLODYTES FURVUS* (Gm.).

Generally seen in pairs, creeping along fences and chasing each other through the orange-trees in my garden. It is a noisy, restless bird; and its song and actions at once reminded me of the European Wren. I once killed this species from the summit of a high tree at the side of a forest-road; but this was the only instance where I saw it ascend to any height.

+ 5. *VIREOSYLVIA OLIVACEA* (L.).

This solitary specimen was shot from a tree in flower; and the stomach was full of the comminuted petals and other portions of the flowers.

6. *HYLOPHILUS SEMICINEREUS*, Scl. & Salv*.

Shot in the forest. Stomach contained insects and berries.

+ 7. *PROGNE CHALYBEA* (Gm.).

I first saw this large Swallow on Christmas-day. A little flock of them were flying to and out of a hole in a hollow tree in the square near my house; some of them carried dry grass bents, apparently, and portions of soft lichens gathered from trees. On the 28th I shot one, a ♀, with the ovaries much distended. No others were about that day; but I subsequently procured them in the same locality, and at a farm-house near Pará. They perch readily and habitually on trees.

+ 8. *STELGIDOPTERYX RUFICOLLIS* (Vieill.).

This Swallow is not uncommon; but, except in a few favoured localities in the town, I never saw it in any numbers together. It feeds on minute flies, and perches readily on trees. It is certainly resident in Pará all the year round, though it is very scarce from September to December, on the 27th of which month I procured a pair, ♂ and ♀, after noting their absence since September.

* This rare species was originally described from specimens obtained by Mr. Wallace in the same district, see P. Z. S. 1867, p. 570.—P. L. S.

9. *HIRUNDO ALBIVENTRIS*, Bodd.

As I was going off to the steamer to embark for England, a pair of Swallows (which I at once recognized in Mr. Selater's collection as of this species) flew about our boat for some time, and gave me every opportunity of observing them closely.

+10. *HIRUNDO ERYTHROGASTRA*, Bodd.

This species keeps about the church-towers in the town of Pará, and never seems to go into the country. I did not, therefore, secure one; but I am satisfied of its identity from seeing specimens in Mr. Selater's cabinet.

11. *DACNIS CAYANA* (L.).

A few specimens of this lovely species were procured in different parts of the forest; their stomachs contained vegetable matter and insects.

12. *CEREBE CYANEA* (L.).

Native name for ♀ "Spirito Santo."

These lovely birds are found generally scattered from fruit- to forest-trees. I am told they only make their appearance in the early morning or after sun-down. They are not uncommon, and a fine male shot by me on the 16th of October was evidently under the breeding-influence. Stomach contained insects.

13. *CEREBE CÆRULEA* (L.).

Two of these lovely little birds, both males, were shot on the blossoms of an "Ingah" tree in my neighbour's garden, in company with *Dacnis cayana*. Their stomachs contained comminuted flowers. The ♂ showed the breeding-στοργή to an immense extent. I obtained the ♀ in a grove of *Urania* trees near Charmont; but the species is rare.

14. *CERTHIOLA CHLOROPYGA*, Cab.

This little Creeper is not uncommon in gardens; but I never saw it in the forest. A pair made a domed nest in an orange-tree close to my window, in July, but deserted it. They completed it in three days; it was lightly built, being quite transparent, and composed of grass bents dry. They feed on insects.

15. *EUPHONIA VIOLACEA* (L.).

Shot up the Acará river, about ten miles from Pará; its stomach contained mucilaginous seeds.

16. *EUPHONIA CAYANA* (L.).

Shot in a deserted garden (August 4th). Stomach contained seeds.

17. *TANAGRELLA VELIA* (L.).

I shot this pretty species feeding on the dark purple berries of a forest-tree left in some cleared land. Another, probably a ♂, was in company with it, but it flew off to the forest (October 16th, 1872). These are the only two I have seen; they must be rare.

18. *CALLISTE FLAVIVENTRIS* (Vieill.).

One or two specimens procured round Pará, frequenting high trees, on the seeds of which they were feeding.

19. *TANAGRA EPISCOPUS*, L.

These birds fly in small flocks of five or six individuals, feeding on berries, seeds, insects, and such like. They breed about July or August, to judge from the testes of the ♂ killed, and are not at all uncommon and widely distributed.

20. *TANAGRA PALMARUM* (Max.).

Shot from a forest-tree, 16th October. Stomach contained purple berries.

21. *RAMPHOCÆLUS JACAPA* (L.).

Common in all gardens and open places overgrown with *Solanum* (such as the Travessas, or cross roads) about Pará. Feeds on seeds and berries; breeds, I think, about June and July, from the young birds procured.

Its native name is "Pipilli," from the cry. It is the commonest of all our birds, and oftenest falls a victim to the gun, being shot by mistake for other species.

22. *TACHYPHONUS MELALEUCUS* (Sparm.).

Shot in my garden at Nazaré, 27th Nov., 1872. Stomach contained insects and seeds.

23. ARREMON SILENS (Bodd.).

Shot in a Travessa overgrown with *Solanum* (7th Dec.). Stomach contained small seeds. A second specimen (male) afterwards shot in the forest.

24. SALTATOR MAGNUS (Gm.).

Several specimens procured in the forest, feeding on purple berries in the month of September.

25. ORYZOBORUS — ?

Shot in an old piece of cleared land fast returning to forest. In the stomach were a number of grass-seeds.

The specimen procured is a female of some species of this genus, probably *O. crassirostris*, but, not being in good order, cannot be identified with certainty.

26. SPERMOPHILA MINUTA (L.).

This pretty little species frequented the long grass in my garden at Nazaré, in conjunction with the other little *Spermophilæ*; but it is scarce and very difficult of approach. It feeds on the grass-seeds.

27. SPERMOPHILA GUTTURALIS (Licht.).

These little Finches are common on all cleared lands and gardens, feeding on grass-seeds. Two or three are generally found together; and in my garden at Nazaré a considerable flock of them inhabit the grass in front of my windows. They climb up the stalks to devour the seeds.

A single rather large white egg was brought to me as the egg of this species; it was found in my garden in December.

28. VOLATINIA JACARINA (L.).

A large flock of these birds frequented the long grass in my garden at Nazaré, feeding on the seeds, for which they climb up and cling to the long stalks. I see many old couples feeding their young ones (which resemble the female in colour); so the breeding-season must be nearly at its close. The skins of these little birds are extremely tender, rendering them very difficult to preserve.

29. CORYPHOSPINGUS CRISTATUS (Gm.).

Shot in a deserted garden on some low shrubs. Stomach empty. August 5th, 1872.

30. *COTURNICULUS MANIMBE* (Licht.).

These Linnets are generally seen in pairs, hopping about in the grass or in the road in front of my house. They devour grass-seeds and insects, and are very expert in catching the latter, darting at them like Wagtails. I feel sure I have seen these birds *walk* as well as *hop*.

31. *OSTINOPS VIRIDIS* (Bodd.).

Procured in the neighbourhood of Pará by Señ. Penna and presented to me. I also saw it once on the wing (a small party of three) near the Strada Braganza.

32. *CASSICUS AFFINIS*, Sw.

Not uncommon in certain localities about Pará, breeding in companies and forming long bag-shaped nests hanging from the branches of trees. They are very noisy near their nesting-places; and their voices are very harsh and loud. Their food is berries.

An egg, taken from a tree on which this and the next were building in company, was a bluish white speckled with black.

33. *CASSICUS PERSICUS* (L.).

The "Japim" is abundant round Pará, nesting in communities, and forming large purse-shaped structures. I have seen them nesting from early July to November. The bird has a strong disagreeable smell, which clings to the skin after preservation. It feeds on fruits, berries, seeds, Indian corn, and such like. Its call is very loud and uttered on the wing as well as when the bird is resting. It is a very active, restless creature, always on the move. Its eggs are large, bluish white, blotched, spotted, and streaked with dark brown (black).

34. *ICTERUS CROCONOTUS* (Wagl.).

I shot a specimen of this bird, the only one seen; but it fell into the river and I could not secure it.

35. *LEISTES GUIANENSIS* (L.).

Procured by Señor Penna in the neighbourhood of Pará; but I never saw it alive.

36. *TODIROSTRUM MACULATUM* (Desm.).

The only specimen procured of this species I shot on the

18th of September, 1872. Its stomach contained a large seed, or berry, swallowed whole.

37. *COLOPTERUS GALEATUS* (Bodd.).

Shot on the 4th of January, 1873, darting at insects at rest on the underside of leaves, the snap of its bill being audible at several yards distance. Unfortunately my charge, small as it was, cut it all to pieces; so I could not distinguish the sex.

† 38. *MIONECTES OLEAGINEUS*, Cab.

The only specimen procured of this little bird was shot on the 1st of October, 1872, from a high tree. Its stomach contained insects.

39. *PHYLLOMYIAS SEMIFUSCA*, Scl.

This little Tyrant is common in gardens, generally in pairs, frequenting the orange-trees and feeding on insects. I found them here, at San Juaõ, in July; and they are still here while I write (beginning of November). They probably migrate during the rainy season.

40. *ORNITHION INCANESCENS* (Max.).

Killed in my garden at Nazaré (November 11th)—a single specimen.

41. *TYRANNISCUS GRACILIPES*, Scl.

Found in gardens. Feeds on insects.

42. *ELAINEA PAGANA* (Licht.).

Shot in my garden (4th of August). Stomach contained large green seeds.

† 43. *LEGATUS ALBICOLLIS* (Vieill.).

This broad-billed Flycatcher I killed on a forest-tree on the 4th of August, 1872. Its stomach contained insects.

44. *MYIOZETETES SIMILIS*, Spix.

The lesser "Bem-te-vie" has just the same habits as the larger bird, *Tyrannus melancholicus*, but is scarcer. It feeds indiscriminately on seeds and insects. I shot one on the ground by the side of a pond, picking up flies.

45. *RYNCHOCYCLUS MEGACEPHALUS* (Sw.).

Shot from a tree in the forest on the 25th of June, 1872, its stomach being full of small coleoptera.

46. *MUSCIVORA REGIA* (Gm.).

When first observed, this beautiful Flycatcher was darting at flies and small insects (with which its stomach was afterwards found filled) from a bare twig, to which it frequently returned. It captured them on the wing as well as reposing on the leaves or branches; and the snap of its bill was quite audible at fifteen or twenty paces. On my firing it fell wounded; and when I ran forward to pick it up, the crest was thrown open in the most beautiful manner, as if in defiance, and, uttering a harsh scream, it seized my fingers with bill and claws, fighting vigorously (10th December, 1872).

Two days after this, I fancy I saw another, in a different and most gloomy part of the forest of Braganza, not far from Nazaré. The present specimen was killed about half a mile from my house, in the forest.

47. *MYIOBIUS NÆVIUS* (Bodd.).

I shot this pretty little Flycatcher (27th November, 1872) in my garden at Nazaré, from the top of a cajeu tree. Its stomach was crammed with insects.

48. *EMPIDONOMUS VARIUS* (Vieill.).

Shot in my garden at San Juaõ; others seen at different times. They perch usually on the top of the trees, on a bare branch, from which they sally out after insects. Seeds were also found in the stomach of one examined. They utter a harsh note. (16th October, 1872.)

49. *TYRANNUS MELANCHOLICHUS*, Vieill.

The "bem-te-vie" is common all round Pará. It frequents alike the forest and the garden, perching on the summits of trees, and usually selecting a bare branch whence to utter the loud cry from which it gets its name. It devours indiscriminately insects, leaves, seeds, &c.

+ 50. *MILVULUS TYRANNUS* (L.).

This Flycatcher appeared first on the 7th of August, 1872. I found a small flock, on going out at daylight, on the top-

most branches of a tall tree in my garden. Though fired at several times, and hit with the first shot, the best-tailed bird returned again and again to the same branch, till I secured him. The flock kept about for a month, and then disappeared. Other flocks were in various places in the neighbourhood at the same time.

They hawked after flies, sallying out from their resting-places, turning over and twisting about very nimbly and gracefully, spreading their tails, and making them assume a pretty lyrate form. Sometimes before rain, when swarms of flying ants would be issuing forth from the nests in the trees, these birds would be very active; then, when darting about, their brilliant white undersides contrasted beautifully against the dull leaden blue of the storm-clouds "big with wind and rain."

† 51. *PIPPA LEUCOCILLA* (L.).

Shot on the 27th of September, 1872, off a forest-tree. Stomach contained one huge seed, undigested and swallowed whole.

† 52. *PIPPA AURICAPILLA*, Licht.

I saw a single specimen of this bird in the forest near Nazaré, but failed to secure it. I received skins from Pebas.

53. *CHIROXIPHIA PAREOLA* (L.).

A single specimen shot in dense forest, 27th September, 1872. Stomach full of dark blue vegetable matter.

54. *CHIROMACHÆRIS MANACUS* (L.)

On the 29th of September I shot several of these little birds, male and female, from a forest-tree, on the fruits of which they were feeding. Had I stayed at the tree, I believe I could have shot fifty. They kept dropping in singly every moment, as did other species, quite unmindful of my presence and of the noise of the gun. They make a curious rattling noise (I suspect, by some movement of the oddly shaped wing-feathers), which constantly betrays their presence in the forests.

55. *PACHYRHAMPHUS ATRICAPILLUS* (Gm.).

Very scarce about Pará; inhabits the forest.

56. *ATTILA THAMNOPHILOIDES* (Spix).

Shot in the forest (27th September, 1872). Stomach full of comminuted berries.

57. *IODOPLEURA ISABELLÆ* (Parz.).

This curious bird, both when sitting on the tree in company with its mate, and when in the hand, reminded me of a Martin; indeed, when I fired at it I fancied it actually was a hen Swallow. Its stomach contained a large berry, swallowed whole, which filled the centre cavity. I never saw but the two here named.

58. *PHENICOCERCUS CARNIFEX* (L.).

Shot in a forest about ten miles from Pará. Stomach contained seeds.

59. *SYNALLAXIS GUIANENSIS* (Gm.).

A single specimen of this elegant little bird occurred to me along the side of a road, creeping about low bushes and uttering a mewing note. I watched it some time before I could get a shot, as it wound its way through the densest tangled mass of sticks &c., every now and then darting on an insect (4th January, 1873).

60. *XENOPS GENIBARBIS*, Ill.

Caught in the house.

61. *GLYPHORHYNCHUS CUNEATUS*, Licht.

This singular bird I shot creeping up the stem of a forest-tree (14th August, 1872). It was very nimble, dodging me round the trunk: only with the greatest difficulty I killed it. It remained clinging to the tree after death, and I was obliged to cut a long sapling and detach its death-hold. The stomach contained insects.

62. *DENDRORNIS EYTONI*, Sel.

Female, shot from the trunk of a huge tree in the most damp and gloomy forest I have yet visited. Another, probably the male, was in company, but flew off on the discharge of the gun (6th February, 1873).

63. *DENDROPLEX PICUS* (Gm.).

I shot this Creeper (21st September, 1872) on a forest-tree on which was a large ant's nest. When opened its stomach was found full of ants.

64. *PICOLAPTES LAYARDI*, Sclater, sp. nov.* (Plate XIV.)

Bill and feet horn-coloured. Iris brown.

A single example of this bird was shot on the 21st of August, running up the trunk of a ceiba tree. I think it was feeding on the ants that had constructed huge clay nests on several branches. Its stomach contained the remains of insects. On the 20th of December I saw one on a fence; he hopped *sideways* from post to post, sometimes 12 or 18 inches apart. At length he caught a large spider and began hammering and beating it on the fence, I suppose to get rid of its long legs, as he swallowed the body when he had effected this.

65. *THAMNOPHILUS MAJOR*, Vieill.

Shot on the Quama side of the town by Mr. Englehart. I know nothing of its habits; and its stomach was empty.

66. *THAMNOPHILUS PALLIATUS*, Licht.

Shot in dense scrub, mewing just like a cat (7th December, 1872). Its stomach contained insects.

67. *THAMNOPHILUS AMAZONICUS*, Scl.

Generally found in pairs, creeping about the underwood in the forest, searching for insects and uttering loud cries. They

* [This apparently new species may be described as follows:—

PICOLAPTES LAYARDI, sp. nov.

Supra terreno-fuscus ferè unicolor, capite obscuriore: alis extus et caudâ totâ cum uropygio rufis: subtus cineraceus, striis latis albis, utrinque nigro marginatis omnino aspersus; gulâ albâ purâ: subalaribus cinnamomeis; remigum primariorum parte apicali intus obscuriore: rostro corneo, subtus pallidiore, pedibus plumbeis: long. tota 7·3, alæ 3·3, caudæ 2·9, rostri a rictu lin. dir. 1·2.

Hab. in vicin. urbis Pará Brasil. (*Layard*).

Mus. P. L. S.

Obs. Sp. aff. *P. fuscicapillo*, et, sicut hæc, pileo unicolori insignis, sed minor, rostro breviori et debiliore et striis corporis inferi latoribus et magis albis distinguenda.—P. L. S.]

spring up at insects on the underside of leaves; and the snap of their bills is audible for a long distance.

+68. *THAMNOPHILUS DOLIATUS* (L.).

Shot on the ground while harrying a swarm of *Eciton* ants (Sept. 18th, 1872), with which its stomach was filled.

69. *THAMNOPHILUS SIMPLEX*, Sclater, sp. nov.* (Plate XV.)

I shot these two birds (male and female) close together in the woods near the Lazar Hospital, Pará (10th January, 1873). Their stomachs contained comminuted insects. Before I shot them I saw the female creeping about the branches of the low underwood, seizing her prey off the underside of leaves. The male did not show himself till I had reloaded and placed the female in my collecting-bag: he then darted across the path; but I was too quick for him, and dropped him as he pitched on the opposite side.

+70. *CERCOMACRA TYRANNINA*, Scl.

Shot on the ground in the forest, feeding upon ants (September 18th, 1872).

71. *FORMICIVORA GRISEA* (Bodd.).

Shot in the "travessa" (or cross street) near my house in Nazaré, creeping about the bush in search of insects, at which it darted when at rest under leaves (9th December, 1872).

72. *PYRIGLENA ATRA* (Sw.).

Shot on the ground feeding on a foraging army of *Saüba*

* [I have not been able to find any described species of *Thamnophilus* which agrees with this pair of birds, and I therefore characterize them as follows:—

THAMNOPHILUS SIMPLEX, sp. nov.

♂. Cinereus ferè unicolor, alis caudâque interne obscurioribus: campterio et punctis paucis tectricum alarium necnon rectricum externarum marginibus angustis albis: tectricibus subalaribus et primariorum marginibus interioribus albicantibus: rostro et pedibus nigris: iride castaneâ: remigibus quarto et quinto longissimis: long. tota 5·5, alæ 2·6, caudæ 2·2. ♀. Rubiginosa, pileo intensiore, ventre magis cinnameo, medialiter pallidiore: alis et caudâ intus nigricantibus.

Hab. in vicin. urbis Pará, imp. Brasil. (*Layard*).

Mus. P. L. S.

Obs. Sp. *Th. stellato*, Spixi, proxima, sed crassitie minore et alis extus ferè immaculatis diversa.—P. L. S.]

ants, 10th August, 1872. Male shot 14th December, 1872. Many of these birds accompanied an army of *Eciton* ants, feeding on the insects they disturbed.

+ 73. *GLAUCIS HIRSUTA* (Gmel.).

Shot while probing the flowers of a parasitic plant very early in the morning. Common in my jugha tree (13th November, 1872).

74. *PYGMORNIS PYGMÆUS* (Spix).

This minute species I shot in my kitchen, hunting spiders. Its humming was singularly loud. I also obtained a specimen hovering over the "ingha" flowers, 13th November, 1872. It is not uncommon in the forests, about low shrubs, especially *Strelitzia*, and is found in the darkest and gloomiest recesses, where the sun's rays never penetrate.

+ 75. *FLORISUGA MELLIVORA* (L.).

Common about Pará, in October, and hovers much in the air to capture minute flying ants as they emerge from their nests in the trees.

76. *CAMPYLOPTERUS OBSCURUS*, Gould.

This "Sabre-wing" is not uncommon about Pará when the "ingha" tree is in blossom, about November. Like the preceding it hovers much in the air, capturing ants.

+ 77. *LAMPORNIS VIOLICAUDA*, Bodd.

Three of these lovely little birds, seen 27th November, 1872, in my garden at Nazaré, hovering over the flowers of the arrowroot. I killed a pair, which proved to be male and female. Their stomachs contained small flies; but when held up by the feet at least a tea-spoonful of honey dropped from their bills.

78. *THALURANIA FURCATOIDES*, Gould.

Shot on ingha trees, to which they seem very partial; indeed all our Humming-birds may be found on this tree when in flower.

79. *EUCEPHALA CÆRULEA*.

Shot in my neighbour's garden at San João, while probing

the flowers of the ingha (23rd September, 1872), also several in my own garden (13th November, 1872). About the commonest Humming-bird we have when the ingha is in flower.

+ 80. *PANYPTILA CAYENNENSIS* (Gm.).

This lovely Swift, the only one I have seen, dashed into my dining-room and was captured on the 19th of September, 1872.

1st December, 1872. Several Swifts seen this day flying very high above the common Spring-tail (*C. poliura*). I think, from their shape, they must belong to this species.

+ 81. *CHÆTURA POLIURA* (Temm.).

From the 16th of June to the 3rd of September I continually saw small parties of these birds high up in the air, but never by any chance within gunshot. On the 3rd of September they suddenly became more plentiful, and descended to earth; since that date they fly low, and I see them everywhere. Their best times are early morning and late in the evening, when they make successful raids on the swarms of flying ants which then emerge from their nests.

+ 82. *CHÆTURA SPINICAUDA* (Temm.).

Common throughout the year.

+ 83. *NYCTIBIUS JAMAICENSIS* (Gm.).

I captured this species at sea off Maranhão, but saw many flying about Pará during June, July, and part of August; then they disappeared. They generally fly in parties, keeping wide apart, each on his line, and hawk after insects. Their flight, when high in the air, is just like that of a Gull; when they descend it is like that of *Caprimulgus*.

84. *NYCTIDROMUS ALBICOLLIS* (Gm.).

Shot on the evening of the 29th November, 1872, sitting under a mango-tree in the road. Watched it for some time flying up at beetles, of which it had several entire in its stomach, which chiefly contained stinking plant-bugs. This bird had a chigo embedded in its leg—not the first instance I have met with where this parasite had established itself on birds. A *Thamnophilus* which I shot had about a dozen on its thighs, and must have suffered greatly.

85. *LUROCALIS SEMITORQUATUS* (Gm.).

Shot in Strada Braganza. Stomach contained comminuted insects.

86. *CAMPEPHILUS TRACHELOPYRUS* (Malh.).

This fine Woodpecker I shot on the 6th Feb. 1873, in a "travessa," not far from my house. When wounded it had a loud harsh scream. Its stomach was full of large yellow grubs and the pupæ of some wood-borer.

87. *DRYOCOPUS LINEATUS* (L.).

Shot in the neighbourhood of Pará. Their stomachs contained small insects and the ants which frequent trees and make large clay nests on them. They rap with great violence and rapidity; and the sound they cause may be compared to the springing of a watchman's rattle.

88. *CELEUS CITRINUS* (Bodd.).

Walking one morning on the road to Una, soon after day-break, a bird darted across the road from some Assaige palms, and pitched in a mango-tree. I instantly threw up my gun and fired; but nothing fell. On going to examine the spot, I saw a queer object sitting huddled up on a thick branch, which presently fell; and on lifting it I found I had killed this strangely coloured Woodpecker. It had been feeding on ants and their eggs. The smell of this bird is most offensive, and, I find, permanent in the dried skin.

89. *CELEUS JUMANA* (Spix).

While placing some Araçaris in my collecting-bag, this Woodpecker flew into a tree over my head, and was there and then added to my *spolia*. I was surprised to find its stomach filled with the same fruits as the Araçaris had been feeding on, berries as large as peas, swallowed whole.

90. *CHLORONERPES RUFICEPS* (Spix).

A single pair, male and female, shot on a dead tree in the Charmont Road. Their stomachs contained numbers of a naked, yellow, wood-boring caterpillar, doubtless obtained from the tree on which they were killed. Another was in company, but escaped.

91. *MELANERPES RUBRIFRONS* (Spix).

I found several of these Woodpeckers frequenting a lot of dead trees in the square not far from my house, and succeeded in obtaining a pair. I was surprised to find that they went *inside* the tree-trunks and hammered away. This accounts for my having frequently traced the hammering of Woodpeckers to what I felt sure must be the tree where the workman was engaged, and yet not being able to find him.

The stomachs of those I shot were full of grubs, insects, ants, and yellow hard seeds. I frequently saw them fly off into the air and catch insects, returning again to the dead limb from which they started. In their flight at these times they were very Swallow-like, so much so that I often mistook them for the large Swallow, *Progne chalybea*, which was flying about at the same time.

92. *BUCCO HYPERRHYNCHUS*, Bp.

I watched this powerful bird for some time before I shot it, on 4th January, 1873. It was hopping about the thick branches of a large tree, and in all its actions reminded me of a "Kinghunter" (*Halcyon*). In its stomach I found a large green *Cetonia*, just crushed and swallowed whole. I subsequently obtained two more, and was struck with their extreme stupidity.

Three birds were in company on a very high tree. I had only my little collecting-gun, with a quarter of a dram of powder and dust-shot, but, selecting the lowest, fired at him. He swung round on his twig and hung suspended. I loaded quickly and aimed at the next, who never moved; at the first report he fell dead, and the third remained. I fired again, without effect; but the next shot brought it down. On firing again at the clinging bird it dropt into a lower tree, and lodged where I could not get it.

93. *BUCCO TECTUS*, Bodd.

I found three of these birds on some low trees in an abandoned clearing covered with second growth. Though I shot one, the other two remained quietly on the tree and allowed me to load again and fire. Even when wounded, the last one

merely flew off, took a circle, and returned. Their stomachs contained insects torn into fragments—I presume, by the curious double hook of the powerful bill.

94. *CHELIDOPTERA TENEBROSA* (Pall.).

Several shot at a plantation about ten miles from Pará. They frequented the topmost twigs of some mangos and the ends of the palm-fronds, flying off in quest of insects, and returning to the same spot on effecting a capture. When I first saw them flying I involuntarily exclaimed “an *Artamus*!” so closely did they resemble them in all their actions. Their stomachs contained insects. I subsequently obtained this species at Pará.

95. *UROGALBA AMAZONUM*, Selater.

I once saw this species in the forest, and shot at it; but it escaped wounded. It was in February.

+96. *CROTOPHAGA ANI* (L.).

Found in small flocks about the edges of the forest and in deserted gardens. Unless killed on the spot, they creep away and climb up the bushes so that it is next to impossible to find them. They feed on fruit and insects, especially *Gryllæ*, which they swallow whole. A small flock inhabit my garden at Nazaré. They mew like a cat, and utter a call just like that of the Curlew, which is so well indicated in their French name “Courlis.” In the mornings, early, I see them sitting on the summit of a small mango-tree, each with its wings expanded, and with their backs turned to the sun, to catch all its warmth. When uttering the before-named cry, they depress the head and elevate the tail and wings.

+97. *DIPLOPTERUS NÆVIUS* (Gmel.).

On the 27th of September, 1872, soon after daylight, I shot one of these Cuckoos in the act of drying its plumage on the top of a small bush. It sat with all its feathers ruffled out, wings drooping, and tail expanded. In the stomach were the remains of small grasshoppers. I am told that, when its plumage is damp, it cannot fly at all and is easily captured by the hand.

+98. *PIAYA CAYANA* (L.).

A pair shot (several others being seen) in a forest about ten miles from Pará. Stomachs filled with insects and soft fruits. One was shot at the gas-works, 1st December, 1872, a female, with ovaries very small. Stomach containing a whole large locust. The bird is called here "alma di gatto" (soul of the cat); its Indian name is "tiquarra."

+99. *PIAYA MINUTA* (Vieill.).

The first specimen of this Cuckoo was given me in a bad condition by Mr. Englehart, shot on the Guama side of the town. The stomach was too decomposed to reveal its contents. The next I shot about ten miles from Pará, in a garden. It crept through the bushes and trees just like a *Colius*, always, on my approaching it, flying out on the opposite side. Its stomach contained spiders and caterpillars.

100. *PTEROGLOSSUS INSCRIPTUS*, Gould.

This rare Araçari I shot from a small flock in the forest along the Strada Braganza on the 5th of September. The flock consisted of this and the next species, one of which I killed at the same time. They frequented the tops of the highest trees, and clung to the branches even after death. A native hunter with me divested himself of his clothes, and in a few moments climbed up to an immense height by means of the pendent lians, and threw down the dead birds. The ease with which the Indian mounted to the great height was a sight to see and admire.

101. *SELENIDERA GOULDI* (Natt.).

This Araçari was shot in company with the last, which the Indian with me declared to be its female; dissection, however, showed them to be both males. Stomach contained fruits.

I have lately (January 1873) found this species nesting in holes of dead trees in company with Woodpeckers; but their "procreant cradles" are quite inaccessible to any thing but a flying creature. I shot several woodpeckers from the tree; and at every discharge the Toucan would come to the entrance-hole, cautiously and with a slow deliberate movement pro-

trude its head, and take a survey round; then, on catching sight of me below, the head would be as cautiously withdrawn. The deliberation of the whole affair was most ludicrous.

102. *BROTOGERYS TUIPARA* (Gm.).

Shot on the 14th February, 1872, one of a pair. Stomach contained berries. The wood-cutters declared the birds had a nest in a huge tree standing in the clearing making for the railway-station, and that the female frequented the spot for days, calling for its mate.

103. *ASTURINA MAGNIROSTRIS* (Gmel.).

This pretty Sparrow-Hawk was shot near the gasworks, Pará, on the 24th of November, 1872. Its stomach contained locusts.

+ 104. *NAUCLERUS FURCATUS*.

27th November, 1872. Walking this morning behind my house, I watched a Fork-tailed Kite for about ten minutes soaring over the trees about 100 yards from me. Having only my long collecting-gun and No. 10 shot, I could not fire with any effect. 1st December, 1872. Six of these beautiful Kites about my house today; by the time I had loaded my large gun they had sailed out of range. Since this date they all disappeared.

+ 105. *BUTEOLA BRACHYURA* (Vieill.).

Shot off the summit of a dead tree in the "Largo San Braz," the square near my house in Nazaré. Stomach empty.

+ 106. *SPIZAETUS TYRANNUS* (Max.).

A single specimen (male) of this fine Hawk, shot near the gas-works at Pará on the 12th October, 1872. Stomach empty. Testes very small.

+ 107. *FALCO DEIROLEUCUS*, Temm.

Shot on 3rd February, 1873, near the Pará gas-works, from the summit of an immensely high tree. It suffered three shots to be fired at it with a small revolver; at length a ball struck it in the throat and came out through the top of the head. Its stomach was empty.

+ 108. URUBITINGA SCHISTACEA.

This fine Hawk was also killed near the gas-works at Pará, on the 11th of August, by Mr. Wilson, the superintendent. I know nothing of its habits; and its stomach was empty.

+ 109. CATHARTES ATRATUS.

This hideous but useful bird was the first that greeted my sight when I landed at Pará. Before daylight, as is my wont in tropical climates, I was up and out of doors. We had landed at 10 o'clock the previous night. I saw a strange-looking object, resembling a bird with outstretched wings, on the end of a neighbouring house. It was still too dark to distinguish objects; but I went into the house and got my faithful companions, my binocular glasses. On my return there were two; and while I tried to make out what they could be, up came a third, and a fourth, and a fifth, till a whole row sat on the ridge awaiting the daylight and the sun's rays to dry their wings. This is the way they sit on trees; and more ungainly brutes cannot be imagined. They are the great scavengers of the place, and most useful in that respect.

They roost in company, and begin their disgusting duties as soon as the sun is up. About 9 or 9.30 they sail away into the upper regions of the air, where they remain till 3 or 4 o'clock, when they again descend to earth. They retire to rest long after sundown, at the end of the brief twilight.

About ten miles from Pará, on a sugar-estate up the river, I saw a species with yellow about the head; but speeding along in a steamboat I could not stay to shoot one.

110. ZENAIDA MACULATA.

I have seen but few specimens of this Dove; the first I found one morning just after daylight, on a tree by the roadside near my house in San Juaõ. Its stomach contained berries. They feed much on the ground, and run with great swiftness, as do the little *Chamæpelæ*.

+ 111. CHAMÆPELIA PASSERINA.

This pretty little ground-Dove is not uncommon in open places along roads, gardens, &c. It is generally found in pairs, male and female; and from the appearance of the organs of the male, and also from finding young birds not fully fledged,

I should think they breed about June and July. It feeds on grass-seeds.

112. *CHAMÆPELIA TALPACOTI*.

Killed in my garden at Nazaré. The stomach contained seed.

+ 113. *CRYPTURUS PILEATUS*.

Shot alongside a native path at the back of my house in Nazaré; one also seen in my garden, 18th December, 1872. It is called "Inambu" by the Brazilians.

+ 114. *ARDEA AGAMI*, Gm.

A single specimen, in young plumage, killed by a native on an igaripé near Pará, was purchased by me in the flesh.

+ 115. *TIGRISOMA BRASILIENSE*.

These curious birds are often kept tame about houses, to destroy the mosquitos and other insect plagues; but they are too dirty in their habits for companionship. I saw two specimens on a bank of mud not far from Pará, but could not stop the steamer to get them.

116. *TOTANUS SOLITARIUS*, Wilson.

Shot on the margin of a pond near Pará. Stomach full of insects.

+ 117. *TRINGA MINUTILLA*, Vieill.

I once saw a small flock of these little Sandpipers cross a boat in which I was seated. Senr Penna subsequently obtained a specimen in the neighbourhood.

118. *PORZANA MELANOPHÆA*.

This little Rail was shot on the river Guama near Pará, and was given me in a state of decomposition; so I could not ascertain the colour of the iris or the contents of the stomach.

119. *PARRA JACANA*.

Two specimens procured—one in adult, the other in young plumage. The latter flew into the veranda of my neighbour, Mr. Hayes, who kindly presented it to me.

120. *STERNA MAGNIROSTRIS*.

The day I left Pará several of these birds were in the river opposite the town.



J. C. Keulemans. lith.

M & N Hanhart. imp.

PICOLAFTES LAYARDI.

